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<110> SCHUIJFFEL, Danielle Francisca
NUIJTEN, Petrus Johannes Maria

<120> Ornithobacterium rhinotracheale subunit vaccines

<130> I-2004.011 US

<140> 10588992

<141> 2007-05-25

<150> PCT/EP2005/050577

<151> 2005-02-09

<150> EP 04075427.7

<151> 2004-02-11

<160> 16

<170> PatentIn version 3.3

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<211> 1614

<212> DNA

<213> Ornithobacterium rhinotracheale

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ggc gac atc tta gcc gaa atc gaa aca gat aaa gcg gtt caa gaa ttt 144
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35 40 45

gaa aca gat gta gaa ggt act ctt tta tac atc ggt gta gag gct ggt 192
Glu Thr Asp Val Glu Gly Thr Leu Leu Tyr Ile Gly Val Glu Ala Gly
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caa gca gca cca gtt gat agt att tta gct atc atc ggt gca gaa ggc 240
Gln Ala Ala Pro Val Asp Ser Ile Leu Ala Ile Ile Gly Ala Glu Gly
65 70 75 80

gaa gac atc agc ggt ttg gta agc ggt gga ggt gct agc caa tca gcg 288
Glu Asp Ile Ser Gly Leu Val Ser Gly Gly Ala Ser Gln Ser Ala
85 90 95

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Ala Pro Ala Ala Glu Val Pro Glu Asn Val Thr Ile Val Ser Met Pro			
115	120	125	
aga ttg agc gat acc atg gaa gaa ggt aaa gta gaa tct tgg aac aaa			432
Arg Leu Ser Asp Thr Met Glu Glu Gly Lys Val Glu Ser Trp Asn Lys			
130	135	140	
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145	150	155	160
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Thr Asp Lys Ala Val Gln Glu Phe Glu Thr Asp Val Glu Gly Thr Leu			
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Leu Tyr Ile Gly Val Glu Ala Gly Gln Ser Ala Pro Val Asp Ser Ile			
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Ile Ser Pro Leu Ala Lys Lys Leu Ala Asp Glu Lys Gly Tyr Asp Ile			
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35 40 45

Glu Thr Asp Val Glu Gly Thr Leu Leu Tyr Ile Gly Val Glu Ala Gly
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Gln Ala Ala Pro Val Asp Ser Ile Leu Ala Ile Ile Gly Ala Glu Gly
65 70 75 80

Glu Asp Ile Ser Gly Leu Val Ser Gly Gly Ala Ser Gln Ser Ala
85 90 95

Pro Ala Gln Glu Ala Ala Ala Pro Ala Glu Glu Pro Gln Ala Glu Ala
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Ala Pro Ala Ala Glu Val Pro Glu Asn Val Thr Ile Val Ser Met Pro
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Arg Leu Ser Asp Thr Met Glu Glu Gly Lys Val Glu Ser Trp Asn Lys
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Lys Val Gly Asp Lys Val Ser Tyr Gly Asp Ile Leu Ala Glu Ile Glu
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Leu Ala Ile Ile Gly Pro Glu Gly Thr Asp Val Ser Ala Ile Val Ala
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210 215 220

Ala Pro Lys Gln Ala Ala Pro Ala Gln Glu Lys Lys Glu Thr Pro Ala
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275 280 285

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290 295 300

Gly Pro Val Ala Leu Glu Val Gly Glu Asp Thr Val Ile Pro Asn Ser
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Gln Met Arg Lys Val Ile Ala Lys Arg Leu Ser Glu Ser Lys Phe Thr
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Ala Ala Arg Lys Gln Ile Asn Gln Ile Pro Asn Thr Lys Val Ser Phe
355 360 365

Asn Asp Ile Val Leu Lys Ala Thr Ala Met Ala Val Lys Lys His Pro
370 375 380

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385 390 395 400

Val Asn Ile Gly Val Ala Val Ala Val Pro Asp Gly Leu Val Val Pro
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Val Lys Asp Leu Ala Thr Arg Ser Arg Asp Arg Lys Ile Lys Ala Asp
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Glu Met Glu Gly Ser Thr Phe Thr Val Ser Asn Leu Gly Ala Tyr Gly
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Val Glu Ser Phe Thr Ser Ile Ile Asn Gln Pro Asn Ser Cys Ile Leu
465 470 475 480

Ser Val Gly Ala Ile Val Glu Lys Pro Val Val Lys Asn Gly Gln Ile
485 490 495

Val Val Gly His Thr Met Lys Leu Cys Leu Ala Cys Asp His Arg Thr
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Phe Ala Ala Cys Ser Asp Phe Asp Tyr Asn Val Glu Asn Pro Asn Leu
20 25 30

acg aag gga gag gct gat ttc tct aaa tat gta gct tta gga aat tct 144
Thr Lys Gly Glu Ala Asp Phe Ser Lys Tyr Val Ala Leu Gly Asn Ser
35 40 45

ctc act tct ggt tat tca gac gga gcc tta tat cgc tcg gca caa gag 192
Leu Thr Ser Gly Tyr Ser Asp Gly Ala Leu Tyr Arg Ser Ala Gln Glu
50 55 60

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85	90	95		
gat ttg ttt gaa gca agt aaa cac acc gca ttt tac gga aaa tta gaa Asp Leu Phe Glu Ala Ser Lys His Thr Ala Phe Tyr Gly Lys Leu Glu				336
100	105	110		
tta aaa atc gta gac ggt gca cct acg cca gtg cct tct gtg cct aag Leu Lys Ile Val Asp Gly Ala Pro Thr Pro Val Pro Ser Val Pro Lys				384
115	120	125		
ttt agt tta gct caa acc ttc gta aaa ggg aat ttt aat aat ttg ggc Phe Ser Leu Ala Gln Thr Phe Val Lys Gly Asn Phe Asn Asn Leu Gly				432
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165	170	175		
gct agc caa cca aat gcc agc gtg ctg agc gat gct ttg gca caa aaa Ala Ser Gln Pro Asn Ala Ser Val Leu Ser Asp Ala Leu Ala Gln Lys				576
180	185	190		
cct aca ttc ttt acc tta tgg atc ggg aac aac gat gtt tta ggc tat Pro Thr Phe Thr Leu Trp Ile Gly Asn Asn Asp Val Leu Gly Tyr				624
195	200	205		
gcc atg aat ggc gca gca agc aca gat cga aaa ggg aac cct gat gta Ala Met Asn Gly Ala Ala Ser Thr Asp Arg Lys Gly Asn Pro Asp Val				672
210	215	220		
aca aca tat aat tca aat gat ttg tct gat gct aac ttg gtg gca ggc Thr Thr Tyr Asn Ser Asn Asp Leu Ser Asp Ala Asn Leu Val Ala Gly				720
225	230	235	240	
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245	250	255		
gct gta gcg aat ttg cct tat gtc gaa gac att ccg tat ttt aca acc Ala Val Ala Asn Leu Pro Tyr Val Glu Asp Ile Pro Tyr Phe Thr Thr				816
260	265	270		
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275	280	285		
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290	295	300		

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305 310 315 320

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Ser Gly Ala Val Ile Val Asp Lys Ser Leu Pro Asp Leu Ser Gln Lys
325 330 335

atc tta gca acc tta cta aaa tta gaa ttc cca aac gaa aaa gct aaa 1056
Ile Leu Ala Thr Leu Leu Lys Leu Glu Phe Pro Asn Glu Lys Ala Lys
340